AMENDMENTS TO THE CLAIMS

1-84.   (Canceled)

85.   (**Currently Amended**)   A computer system for ~~initializing~~ processing sensor data from a continuous glucose sensor, the computer system comprising:

a sensor data receiving module ~~that receives~~ configured to receive sensor data from ~~the substantially~~ a continuous glucose sensor ~~via a receiver, including~~ wherein the sensor data comprises one or more sensor data points;

a reference data receiving module ~~that receives~~ configured to receive reference data ~~from a reference glucose monitor, including~~ wherein the reference data comprises one or more reference data points;

a data matching module ~~that forms~~ configured to form one or more matched data pairs by matching reference data to substantially time corresponding sensor data; and

a stability determination module ~~that determines~~ configured to determine a stability of the continuous glucose sensor ~~in real-time~~, wherein said the stability determination module ~~evaluates~~ is configured to evaluate a sensitivity associated with the continuous glucose sensor.

86.   (**Currently Amended**)   The computer system of claim 85, wherein said the stability determination module ~~evaluates~~ is further configured to evaluate at least one of pH, oxygen, hypochlorite, interfering species, correlation of matched pairs, R-value, baseline drift, baseline offset, ~~and~~ amplitude, or combinations thereof.

87.   (**Currently Amended**)   The computer system of claim 85, further comprising an interface control module ~~that provides~~ configured to provide output ~~to the user~~ based at least in part on ~~a~~ the stability of ~~said~~ the continuous glucose sensor.

88.   (**Currently Amended**)   The computer system of claim 87, wherein ~~said~~ the output from ~~said~~ the interface control module comprises at least one of a numeric estimated glucose value, an indication of directional trend of glucose concentration, ~~and~~ a graphical representation of an estimated glucose value, or combinations thereof.

89.   (**Currently Amended**)   The computer system of claim 85, wherein ~~said~~ the reference data receiving module is ~~adapted~~ configured to receive sensor data from a blood glucose test.

90. **(Currently Amended)** The computer system of claim 85, wherein ~~said~~ the reference data receiving module is ~~adapted~~ configured to receive reference data from an internal reference glucose monitor that is housed integrally with ~~said~~ the computer system.

91. **(Currently Amended)** A method for ~~initializing~~ processing sensor data from a ~~substantially~~ continuous glucose sensor, the method comprising:

receiving sensor data from a ~~substantially~~ continuous glucose sensor, ~~including~~ wherein the sensor data comprises one or more sensor data points;

forming one or more matched data pairs by matching reference data to substantially time corresponding sensor data; ~~and~~

determining a stability of the continuous glucose sensor at least in part by evaluating a sensitivity associated with the continuous glucose sensor; and

providing output reflective of ~~said~~ the sensor data after a predetermined level of stability has been determined~~, wherein determining a stability of the substantially continuous glucose sensor comprises evaluating a sensitivity associated with the continuous glucose sensor~~.

92. **(Currently Amended)** The method of claim 91, wherein determining a stability of the ~~substantially~~ continuous glucose sensor further comprises waiting a predetermined time period ~~between~~ of from about one minute ~~and~~ to about six weeks after implantation of the continuous glucose sensor in a host before determining a stability associated with the continuous glucose sensor.

93. **(Currently Amended)** A method for ~~initializing~~ processing sensor data from a ~~substantially~~ continuous glucose sensor, the method comprising:

receiving sensor data from a ~~substantially~~ continuous glucose sensor, ~~including~~ wherein the sensor data comprises one or more sensor data points;

receiving reference data from a reference glucose monitor that is independent from the continuous glucose sensor, wherein the reference data comprises one or more reference data points;

forming one or more matched data pairs, wherein the one or more matched data pairs are formed by matching at least one reference data point to at least one substantially time corresponding sensor data point;

-3-

determining a stability of the continuous glucose sensor at least in part by evaluating the at least one matched data pair; and

providing output reflective of ~~said~~ the sensor data after a predetermined level of stability has been determined~~; and~~

~~receiving reference data from a reference glucose monitor, including one or more reference data points and providing at least one matched data pair by matching reference glucose data to substantially time corresponding sensor data, wherein determining a stability of the substantially continuous glucose sensor comprises evaluating said at least one matched data pair.~~

94.   **(Currently Amended)**   The method of claim 91, wherein determining a stability of the ~~substantially~~ continuous glucose sensor <u>further</u> comprises evaluating <u>at least</u> one of pH, oxygen, hypochlorite, interfering species R-value, baseline drift, baseline offset, ~~and~~ ~~amplitude~~, or combinations thereof.

95.   **(Currently Amended)**   The method of claim 91, wherein ~~the step of~~ providing output comprises providing at least one of an audible <u>output</u>, visual <u>output</u>, ~~or~~ tactile output<u>, or combinations thereof</u> ~~to a user based on a stability of said sensor~~.

96.   **(Currently Amended)**   The method of claim 95, wherein ~~the step of~~ providing output ~~based on a predetermined level of stability of said sensor~~ comprises indicating at least one of a numeric estimated glucose value, a directional trend of glucose concentration, ~~and~~ a graphical representation of an estimated glucose value<u>, or combinations thereof</u>.

97.   (Previously Presented)   The method of claim 91, further comprising receiving reference data from a reference glucose monitor.

98.   (Previously Presented)   The method of claim 97, wherein receiving reference data from a reference glucose monitor comprises receiving a wired internal communication.

99.   **(Currently Amended)**   A system for ~~initializing~~ <u>processing sensor data from</u> a continuous glucose sensor, comprising:

a sensor data module ~~operatively~~ <u>operably</u> linked to <u>a</u> ~~an implantable~~ continuous glucose sensor and configured to receive sensor data from ~~said~~ <u>the continuous glucose</u> sensor<u>, wherein the sensor data comprises one or more sensor data points</u>; and

a processor module associated with the sensor data module ~~and the sensor data~~ ~~module~~ and programmed to match <u>one or more</u> reference data points with <u>one or more</u> <u>substantially time corresponding</u> ~~time-matched~~ sensor data points to form a calibration set comprising at least one matched data pair, wherein the processor module is programmed to evaluate a stability of the ~~implantable~~ continuous glucose sensor <u>at least in part by</u> <u>evaluating a sensitivity associated with the continuous glucose sensor</u>, and wherein the processor module is further programmed to output information reflective of ~~said~~ <u>the</u> sensor data after a predetermined level of stability has been determined~~, wherein said~~ ~~processor module is programmed to evaluate a sensitivity associated with the continuous~~ ~~glucose sensor~~.

100. **(Currently Amended)** The system of claim 99, wherein ~~said~~ <u>the</u> predetermined level of stability is based <u>at least in part</u> on a time period ~~since~~ <u>after</u> the ~~implantable~~ continuous glucose sensor was implanted.

101. **(Currently Amended)** The system of claim 99, wherein ~~said~~ <u>the</u> processor module is <u>further</u> programmed to evaluate <u>at least</u> one of pH, oxygen, hypochlorite, interfering species, correlation of matched pairs, R-value, baseline drift, baseline offset, ~~and~~ amplitude<u>, or</u> <u>combinations thereof</u>.

102. **(Currently Amended)** The system of claim 99, further comprising <u>an</u> output module associated with ~~said~~ <u>the</u> processor module and programmed to control output of <u>the</u> sensor data.

103. **(Currently Amended)** The system of claim 102, wherein ~~said~~ <u>the</u> output of sensor data indicates at least one of a numeric estimated glucose value, a directional trend of glucose concentration~~, and~~ a graphical representation of an estimated glucose value<u>, or</u> <u>combinations thereof</u>.

104. **(Previously Presented)** The system of claim 99, further comprising a reference input module configured to receive reference data from a blood glucose test, wherein the reference data comprises one or more reference data points.

105. **(Previously Presented)** The system of claim 99, further comprising a reference glucose monitor integral with the system and wherein the system further comprises a reference input module configured to receive an internal communication from the reference

glucose monitor, wherein the internal communication comprises one or more reference data points.

106-175.   (Canceled)

176.   (**Currently Amended**)   The computer system of claim 85, wherein ~~said~~ the stability determination module ~~evaluates~~ is configured to evaluate at least one of an amplitude ~~and/or~~ or a variability of the sensitivity.

177.   (**Currently Amended**)   A computer system for ~~initializing~~ processing sensor data from a continuous glucose sensor, the computer system comprising:

a sensor data receiving module ~~that receives~~ configured to receive sensor data from the ~~substantially~~ continuous glucose sensor via a receiver, ~~including~~ wherein the sensor data comprises one or more sensor data points;

a reference data receiving module ~~that receives~~ configured to receive reference data from a reference glucose monitor, ~~including~~ wherein the reference data comprises one or more reference data points;

a data matching module ~~that forms~~ configured to form one or more matched data pairs by matching at least one reference data point to at least one substantially time corresponding sensor data point; and

a stability determination module ~~that determines~~ configured to determine a stability of the continuous glucose sensor ~~in real-time~~, wherein ~~said~~ the stability determination module evaluates a level of oxygen.

178.   (Previously Presented)   The computer system of claim 85, further comprising an interface control module comprising alerts configured to warn a user of a present and/or upcoming hypoglycemic and/or hyperglycemic event.

179.   (Previously Presented)   The computer system of claim 85, further comprising a processor module configured to predict one or more glucose values at one or more future points in time.

180.   (Previously Presented)   The computer system of claim 85, further comprising an interface control module configured to send the sensor data to an insulin pump.

181.   (Previously Presented)   The computer system of claim 180, wherein the interface control module is configured to send the sensor data to the insulin pump only when a

stability determination module determines a predetermined level of stability of the continuous sensor.

182. (Canceled)

183. (**Currently Amended**)   The method of claim 91, wherein determining a stability of the ~~substantially~~ continuous glucose sensor comprises evaluating at least one of an amplitude ~~and/or~~ or a variability of the sensitivity.

184. (**Currently Amended**)   A method for ~~initializing~~ processing sensor data from a ~~substantially~~ continuous glucose sensor, the method comprising:

receiving sensor data from a ~~substantially~~ continuous glucose sensor, ~~including~~ wherein the sensor data comprises one or more sensor data points;

forming one or more matched data pairs by matching reference data to substantially time corresponding sensor data; ~~and~~

determining a predetermined level of stability of the continuous glucose sensor at least in part by evaluating a level of oxygen; and

providing output reflective of ~~said~~ the sensor data after ~~a~~ the predetermined level of stability has been determined, ~~wherein determining a stability of the substantially continuous glucose sensor comprises evaluating a level of oxygen~~.

185. (Previously Presented)   The method of claim 91, wherein providing output comprises alerting a user of a present and/or upcoming hypoglycemic and/or hyperglycemic event.

186. (Previously Presented)   The method of claim 91, further comprising predicting one or more glucose values at one or more future points in time.

187. (Previously Presented)   The method of claim 91, wherein providing output comprises sending the sensor data to an insulin pump.

188. (**Currently Amended**)   The method of claim 187, wherein providing output comprises sending the sensor data to the insulin pump only when ~~a~~ the predetermined level of stability ~~determination module determines a stability~~ of the continuous sensor is determined.

189. (Canceled)

190.   **(Currently Amended)**   The system of claim 99, wherein ~~said~~ the processor module is programmed to evaluate at least one of an amplitude ~~and/or~~ or a variability of the sensitivity.

191.   **(Currently Amended)**   A system for ~~initializing~~ processing sensor data ~~from~~ a continuous glucose sensor, comprising:

a sensor data module ~~operatively~~ operably linked to ~~an implantable~~ a continuous glucose sensor and configured to receive sensor data from ~~said~~ the continuous glucose sensor; and

a processor module associated with the sensor data module ~~and the sensor data module~~ and programmed to match one or more reference data points with one or more ~~time-matched~~ substantially time corresponding sensor data points to form a calibration set comprising at least one matched data pair, wherein the processor module is programmed to evaluate a stability of the ~~implantable~~ continuous glucose sensor at least in part by evaluating a level of oxygen, and wherein the processor module is further programmed to output information reflective of ~~said~~ the sensor data after a predetermined level of stability has been determined, ~~wherein said processor module is programmed to evaluate a level of oxygen~~.

192.   (Previously Presented)   The system of claim 99, further comprising an output module comprising alerts configured to warn a user of a present and/or upcoming hypoglycemic and/or hyperglycemic event.

193.   (Previously Presented)   The system of claim 99, wherein the processor module is configured to predict one or more glucose values at one or more future points in time.

194.   (Previously Presented)   The system of claim 99, further comprising an output module configured to send the sensor data to an insulin pump.

195.   **(Currently Amended)**   The system of claim 194, wherein the output module is configured to send the sensor data to the insulin pump only when ~~a stability determination module determines a~~ the predetermined level of stability of the continuous sensor is determined.

196.   **(Currently Amended)**   A continuous glucose sensor system, comprising:

a continuous glucose sensor configured to continuously measure a concentration of glucose in a host; and

a computer system configured to receive sensor data associated with the concentration of glucose in the host and configured to process the sensor data to provide displayable sensor data, wherein the computer system is configured to output the sensor data only after a predetermined level of stability of the continuous glucose sensor has been determined, wherein the computer system is configured to provide at least one matched data pair by matching reference glucose data <u>from a reference glucose monitor</u> <u>that is independent from the continuous glucose sensor</u> to substantially time corresponding sensor data, and wherein the computer system is configured to determine a stability of the continuous glucose sensor <u>at least in part</u> by evaluating ~~said~~ <u>the</u> at least one matched data pair.

197.   (**Currently Amended**)   The system of claim 196, wherein the computer system is configured output the sensor data to a display ~~only~~ after ~~a~~ <u>the</u> predetermined level of stability of the continuous glucose sensor has been determined.

198.   (**Currently Amended**)   The system of claim 196, wherein the computer system is configured output the sensor data to an insulin pump ~~only~~ after ~~a~~ <u>the</u> predetermined level of stability of the continuous glucose sensor has been determined.

199.   (**Currently Amended**)   The system of claim 196, wherein the computer system is configured output alerts configured to warn a user of a present and/or upcoming hypoglycemic and/or hyperglycemic event ~~only~~ after ~~a~~ <u>the</u> predetermined level of stability of the continuous glucose sensor has been determined.

200.   (**Currently Amended**)   The computer system of claim 177, further comprising an interface control module ~~that provides~~ <u>configured to provide</u> output ~~to the user~~ based <u>at least in part</u> on ~~a~~ <u>the</u> stability of ~~said~~ <u>the</u> sensor.

201.   (**Currently Amended**)   The computer system of claim 200, wherein ~~said~~ <u>the</u> output from ~~said~~ <u>the</u> interface control module comprises at least one of a numeric estimated glucose value, an indication of directional trend of glucose concentration, ~~and~~ a graphical representation of an estimated glucose value<u>, or combinations thereof</u>.

202. **(Currently Amended)** The computer system of claim 177, wherein ~~said~~ the reference data receiving module is ~~adapted~~ configured to receive sensor data from a blood glucose test.

203. **(Currently Amended)** The computer system of claim 177, wherein ~~said~~ the reference data receiving module is ~~adapted~~ configured to receive reference data from an internal reference glucose monitor that is housed integrally with ~~said~~ the computer system.

204. **(Currently Amended)** The computer system of claim 177, wherein ~~said~~ the stability determination module ~~evaluates~~ is configured to evaluate at least one of an amplitude ~~and/or~~ or a variability of ~~the~~ a sensitivity associated with the continuous glucose sensor.

205. (Previously Presented) The computer system of claim 177, further comprising an interface control module comprising alerts configured to warn a user of a present and/or upcoming hypoglycemic and/or hyperglycemic event.

206. (Previously Presented) The computer system of claim 177, further comprising a processor module configured to predict one or more glucose values at one or more future points in time.

207. (Previously Presented) The computer system of claim 177, further comprising an interface control module configured to send the sensor data to an insulin pump.

208. **(Currently Amended)** The computer system of claim 207, wherein the interface control module is configured to send the sensor data to the insulin pump only when ~~a~~ the stability determination module determines a predetermined level of stability of the continuous glucose sensor.

209. **(Currently Amended)** The method of claim 93, wherein determining a stability of the ~~substantially~~ continuous glucose sensor further comprises waiting a predetermined time period ~~between~~ of from about one minute ~~and~~ to about six weeks after implantation of the continuous glucose sensor in a host before determining a stability associated with the continuous glucose sensor.

210. **(Currently Amended)** The method of claim 93, wherein determining a stability of the ~~substantially~~ continuous glucose sensor further comprises evaluating at least one of pH, oxygen, hypochlorite, interfering species R-value, baseline drift, baseline offset, ~~and~~ amplitude, or combinations thereof.

211. **(Currently Amended)** The method of claim 93, wherein ~~the step of~~ providing output comprises providing at least one of an audible output, visual output, ~~or~~ a tactile output, or combinations thereof ~~to a user based on a stability of said sensor~~.

212. **(Currently Amended)** The method of claim 211, wherein ~~the step of~~ providing output further ~~based on a predetermined level of stability of said sensor~~ comprises indicating at least one of a numeric estimated glucose value, a directional trend of glucose concentration, ~~and~~ a graphical representation of an estimated glucose value, or combinations thereof.

213. (Previously Presented) The method of claim 93, wherein receiving reference data from a reference glucose monitor comprises receiving a wired internal communication.

214. **(Currently Amended)** The method of claim 93, wherein determining a stability of the ~~substantially~~ continuous glucose sensor comprises evaluating at least one of an amplitude ~~and/or~~ or a variability of ~~the~~ a sensitivity associated with the continuous glucose sensor.

215. (Previously Presented) The method of claim 93, wherein providing output comprises alerting a user of a present and/or upcoming hypoglycemic and/or hyperglycemic event.

216. (Previously Presented) The method of claim 93, further comprising predicting one or more glucose values at one or more future points in time.

217. (Previously Presented) The method of claim 93, wherein providing output comprises sending the sensor data to an insulin pump.

218. **(Currently Amended)** The method of claim 217, wherein providing output comprises sending the sensor data to the insulin pump only when ~~a~~ the predetermined level of stability of ~~determination module determines a stability of~~ the continuous glucose sensor is determined.

219. **(Currently Amended)** The method of claim 184, wherein determining a stability of the ~~substantially~~ continuous glucose sensor further comprises waiting a predetermined time period ~~between~~ of from about one minute ~~and~~ to about six weeks after implantation of the

continuous glucose sensor in a host before determining a stability associated with the continuous glucose sensor.

220. (**Currently Amended**) The method of claim 184, wherein ~~the step of~~ providing output comprises providing at least one of an audible <u>output</u>, visual <u>output</u>, ~~or~~ a tactile output<u>, or combinations thereof</u> ~~to a user based on a stability of said sensor~~.

221. (**Currently Amended**) The method of claim 220, wherein ~~the step of~~ providing output <u>further</u> ~~based on a predetermined level of stability of said sensor~~ comprises indicating at least one of a numeric estimated glucose value, a directional trend of glucose concentration, ~~and~~ a graphical representation of an estimated glucose value<u>, or combinations thereof</u>.

222. (Previously Presented) The method of claim 184, further comprising receiving reference data from a reference glucose monitor.

223. (Previously Presented) The method of claim 222, wherein receiving reference data from a reference glucose monitor comprises receiving a wired internal communication.

224. (**Currently Amended**) The method of claim 184, wherein determining a stability of the ~~substantially~~ continuous glucose sensor <u>further</u> comprises evaluating <u>at least one of</u> an amplitude ~~and/or~~ <u>or a</u> variability of ~~the~~ <u>a</u> sensitivity <u>of the continuous glucose sensor</u>.

225. (Previously Presented) The method of claim 184, wherein providing output comprises alerting a user of a present and/or upcoming hypoglycemic and/or hyperglycemic event.

226. (Previously Presented) The method of claim 184, further comprising predicting one or more glucose values at one or more future points in time.

227. (Previously Presented) The method of claim 184, wherein providing output comprises sending the sensor data to an insulin pump.

228. (**Currently Amended**) The method of claim 227, wherein providing output comprises sending the sensor data to the insulin pump only when ~~a~~ <u>the</u> predetermined level of stability ~~determination module determines a stability~~ of the continuous glucose sensor <u>has been determined</u>.

229.   **(Currently Amended)**   The system of claim 191, wherein ~~said~~ the predetermined level of stability is based at least in part on a time period ~~since~~ after the ~~implantable~~ continuous glucose sensor was implanted.

230.   **(Currently Amended)**   The system of claim 191, further comprising an output module associated with ~~said~~ the processor module, wherein the output module is ~~and~~ programmed to control output of sensor data.

231.   **(Currently Amended)**   The system of claim 230, wherein said the output of sensor data indicates at least one of a numeric estimated glucose value, a directional trend of glucose concentration, ~~and~~ a graphical representation of an estimated glucose value, or combinations thereof.

232.   (Previously Presented)   .   The system of claim 191, further comprising a reference input module configured to receive reference data from a blood glucose test, wherein the reference data comprises one or more reference data points.

233.   (Previously Presented)   The system of claim 191, further comprising a reference glucose monitor integral with the system and wherein the system further comprises a reference input module configured to receive an internal communication from the reference glucose monitor, wherein the internal communication comprises one or more reference data points.

234.   **(Currently Amended)**   The system of claim 191, wherein ~~said~~ the processor module is programmed to evaluate at least one of an amplitude ~~and/or~~ or a variability of ~~the~~ a sensitivity of the continuous glucose sensor.

235.   (Previously Presented)   The system of claim 191, further comprising an output module comprising alerts configured to warn a user of a present and/or upcoming hypoglycemic and/or hyperglycemic event.

236.   (Previously Presented)   The system of claim 191, wherein the processor module is configured to predict one or more glucose values at one or more future points in time.

237.   (Previously Presented)   The system of claim 191, further comprising an output module configured to send the sensor data to an insulin pump.

238.   **(Currently Amended)**   The system of claim 237, wherein the output module is configured to send the sensor data to the insulin pump only when ~~a stability~~

~~determination module determines a~~ the predetermined level of stability of the continuous glucose sensor ~~has been determined~~.

239. **(Currently Amended)** A continuous glucose sensor system, comprising:

a continuous glucose sensor configured to continuously measure a concentration of glucose in a host; and

a computer system configured to receive sensor data associated with the concentration of glucose in the host and configured to process the sensor data to provide displayable sensor data, wherein the computer system is configured to output the sensor data ~~only~~ after a predetermined level of stability of the continuous glucose sensor has been determined at least in part by evaluating a sensitivity associated with the continuous glucose sensor.

240. **(Currently Amended)** The system of claim 239, wherein the computer system is configured output the sensor data to a display ~~only~~ after ~~a~~ the predetermined level of stability of the continuous glucose sensor has been determined.

241. **(Currently Amended)** The system of claim 239, wherein the computer system is configured output the sensor data to an insulin pump ~~only~~ after ~~a~~ the predetermined level of stability of the continuous glucose sensor has been determined.

242. **(Currently Amended)** The system of claim 239, wherein the computer system is configured output alerts configured to warn a user of a present and/or upcoming hypoglycemic and/or hyperglycemic event ~~only~~ after ~~a~~ the predetermined level of stability of the continuous glucose sensor has been determined.

243. **(Currently Amended)** A continuous glucose sensor system, comprising:

a continuous glucose sensor configured to continuously measure a concentration of glucose in a host; and

a computer system configured to receive sensor data associated with the concentration of glucose in the host and configured to process the sensor data to provide displayable sensor data, wherein the computer system is configured to output the sensor data ~~only~~ after a predetermined level of stability of the continuous glucose sensor has been determined at least in part by evaluating a level of oxygen.

244. **(Currently Amended)** The system of claim 243, wherein the computer system is configured output the sensor data to a display ~~only~~ after ~~a~~ the predetermined level of stability of the continuous glucose sensor has been determined.

245. **(Currently Amended)** The system of claim 243, wherein the computer system is configured output the sensor data to an insulin pump ~~only~~ after ~~a~~ the predetermined level of stability of the continuous glucose sensor has been determined.

246. **(Currently Amended)** The system of claim 243, wherein the computer system is configured output alerts configured to warn a user of a present and/or upcoming hypoglycemic and/or hyperglycemic event ~~only~~ after ~~a~~ the predetermined level of stability of the continuous glucose sensor has been determined.

247. (New) The system of claim 196, wherein the reference glucose monitor is physically connected to the computer system.